

manifold and said first gas manifold inlet valve are located at a second location separate and removed from said first location;

2437 a second process gas source located at said first location;

89 a second regulator coupled to said second process gas source, said second regulator located at said first location; and

a second gas manifold inlet valve coupled between said second regulator and said gas manifold, said second gas manifold inlet valve located at said second location.

12/22. (AMENDED) A system comprising:

a mixer;

a first gas source coupled to an inlet port of said mixer;

87 a second gas source coupled to said inlet port of said mixer;

a first regulator coupled between said inlet port of said mixer and said first gas source;

a second regulator coupled between said inlet port of said mixer and said second gas source;

a third regulator coupled to an outlet port of said mixer; and

a check valve coupled to said outlet port of said mixer and to an exhaust.

16/25. (AMENDED) A system comprising:

a mixer;

88 a first gas source coupled to an inlet port of said mixer; a second gas source coupled to said inlet port of said mixer;

a first regulator coupled between said inlet port of said mixer and said first gas source;

a second regulator coupled between said inlet port of said mixer and said second gas source;

a third regulator coupled to an outlet port of said mixer;

a check valve coupled to said outlet port of said mixer and to an exhaust, wherein a first flow of a process gas exits said mixer, wherein a second flow of said process gas passes through said third regulator, a difference between said first flow and said second flow being a third flow of said process gas which passes through said check valve.

13/ 26. (AMENDED) ~~A system comprising:~~
~~a mixer;~~
~~a first gas source coupled to an inlet port of said mixer;~~
~~a second gas source coupled to said inlet port of said mixer;~~
The system of claim 22, wherein said first gas source is a dopant gas source and wherein said second gas source is a carrier gas source.
~~a first regulator coupled between said inlet port of said mixer and said first gas source; and~~
~~a second regulator coupled between said inlet port of said mixer and said second gas source.~~

Please add new Claims 35-37 as follows:

--35. A gas flow control system for a semiconductor processing unit comprising:

a first process gas source located at a first location;
a first mass flow controller located at said first location and coupled to said first process gas source;
a support structure located at said semiconductor processing unit;
a gas manifold located at said support structure;
a first gas manifold inlet valve located at said support structure and coupled between said gas manifold and said first mass flow controller;
a second process gas source located at said first location;
a second mass flow controller located at said first location and coupled to said second process gas source; and

a second gas manifold inlet valve located at said support structure and coupled between said gas manifold and said second mass flow controller,

wherein said gas manifold, said first gas manifold inlet valve and said second gas manifold inlet valve are located at a second location separate and removed from said first location, a first process gas from said first process gas source and a second process gas from said second process gas source mixing in said gas manifold.

18/8/36. A system comprising:

a mixer;

a first gas source coupled to an inlet port of said mixer;

a second gas source coupled to said inlet port of said mixer, [wherein a first process gas from said first process gas source and a second process gas from said second process gas source mix in said mixer];

a first regulator coupled between said inlet port of said mixer and said first gas source;

a second regulator coupled between said inlet port of said mixer and said second gas source; and

a third regulator coupled to an outlet port of said mixer, said third regulator being a mass flow controller.

19/37. The system of Claim 36 further comprising a check valve coupled to said outlet port of said mixer and to an exhaust.--